

REMARKS

Reconsideration of this application, in view of the foregoing amendments and the following remarks, is respectfully requested.

Claim Rejections - 35 USC §102

Claims 1 and 3 are rejected under 35 U.S.C. 102(e) as being anticipated by Avidor et al. (US 6,421,399). Applicants respectfully traverse these rejections.

To anticipate a claim, the reference must teach every element of the claim. *See* MPEP §2131. As to claim 1, Avidor et al. do not teach each and every element of the claim.

Regarding claim 1, the Examiner has stated that Avidor et al. describe “removing from each of the estimated phases an angle rotation introduced by a modulation format, **wherein the rotation is determined based on a reference symbol** (Fig.1 element 30 and Fig.2 element 214, column 3 lines 18-25, column 4 lines 25-37, and column 6 line 44 - column 7 line 25)” (Emphasis added). Applicants respectfully disagree and point to the Examiner that first, in the cited sections Avidor et al. do not describe removing angle rotation instead it describes demodulating an incoming signal, which is basically separating carrier (column 3 lines 18-25). Further, Avidor et al. describes rotating frequencies of the incoming signal to separate signals from the incoming stream for each band (column 4 lines 25-37). According to Avidor et al. “[initially], a down converter 22 and a frequency rotator 24 **frequency shift the incoming signal to provide signals for each band.**” (Col. 4, lines 29-31, emphasis added). In fact, Avidor et al. actually introduces rotation to the incoming signal rather than removing it so the matched filters 26 and symbol sampler 28 can “filter and sample each symbol **within the rotated signal.**” (Col. 4, lines 29-32, emphasis added). This clearly contradicts removing from each of the estimated phases an angle rotation introduced by a modulation format as recited in claim 1.

Second, claim 1 recites that the rotation is determined based on a reference symbol. Avidor et al. do not even describe using any reference symbol for any kind of processing. Therefore, Avidor et al. do not teach this limitation of claim 1.

The Examiner has cited element 36 as configured to derive a set of values from the estimated phases as recited in claim 1. Further, the Examiner has cited elements 36 and 40 of figure 1 and elements 66 and 70 of figure 4 as to processing the values to determine estimates of the carrier frequency and phase offsets to be estimated as recited in claim 1. Applicants would like to respectfully point to the Examiner that the circuit shown in figure 4 is actually an alternate embodiment of the circuit shown in figure 1 (*see* col. 9, lines 58-64). Further, element 36 does not derive a set values from the estimated phases that are a function of the carrier frequency and phase offsets after removal of angle rotation as recited in claim 1 instead, element 36 actually addresses the “equivocation” anomaly introduced in the algorithm processed by the non-linear processor 30 and complex accumulator 32 (*please see* col. 8, lines 7-39). Therefore, the cited elements do not describe deriving and processing a set of values as recited in claim 1.

Accordingly, Avidor et al. do not describe, teach, or show all limitations of claim 1 and claim 1 is clearly patentably distinguishable from Avidor et al.

Claim 3 depends from claim 1 and is patentably distinguishable from Avidor et al. for at least the same reasons as claim 1. Further, the Examiner has cited Fig.1 element 36 as deriving the set of values. As explained above, element 36 does not derive the set of values as recited in claim 3. Therefore, Avidor et al. do not each all limitations of claim 3. Accordingly, claim 3 is further patentably distinguishable from Avidor et al.

Claim Rejections - 35 USC §103

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Avidor et al. (US 6,421,399) in view of Yoshida et al. (US 5,170,415). Applicants respectfully traverse this rejection.

There are three basic criteria to establish a *prima facie* case of obviousness under 35 U.S.C. §103(a). First, there must be some suggestion or motivation in the cited references to modify or combine their teachings; second, there must be reasonable expectation of success; and third, the prior art references must teach or suggest all the claim limitations. *See* M.P.E.P §2142.

As to claim 2, the combination of Avidor et al. and Yoshida et al. does not teach or suggest all limitations of claim 2.

Claim 2 depends from claim 1, which has been distinguished from Avidor et al. for failing to disclose all limitations of claim 1. Accordingly, claim 2 is patentably distinguishable from Avidor et al. for at least the same reasons as claim 1. Therefore, the combination of Avidor et al. and Yoshida et al. cannot render claim 2 obvious.

Further, Yoshida et al. is directed towards Amplitude-Phase Shift Keyed (APSK) signals where Avidor et al. is directed to Multiple-Phase Shift Keyed signals. Furthermore, Avidor et al. describes problems with using PLLs as “not effective for ‘bursty’ transmissions.” (Col. 1, lines 39-48). Thus, Avidor et al. actually teaches away from using PLLs. Therefore, it will not be obvious to one of ordinary skill in the art to combine the teachings of Yoshida et al. and Avidor et al. Accordingly, claim 2 is further patentably distinguishable from the combination of cited references.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Avidor et al. (US 6,421,399) in view of Dobrica (US 5,875,215). Applicants respectfully traverse these rejections.

Claim 4 depends from claim 1, which has been distinguished from Avidor et al. for failing to disclose all limitations of claim 1. Accordingly, claim 4 is patentably distinguishable from Avidor et al. for at least the same reasons as claim 1. Therefore, the combination of Avidor et al. and Dobrica cannot render claim 4 obvious.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Avidor et al. (US 6,421,399) in view of Li et al. (US 6,031,880). Applicants respectfully traverse this rejection.

Claim 4 depends from claim 1, which has been distinguished from Avidor et al. for failing to disclose all limitations of claim 1. Accordingly, claim 5 is patentably distinguishable from Avidor et al. for at least the same reasons as claim 1. Therefore, the combination of Avidor et al. and Li et al. cannot render claim 5 obvious.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Avidor et al. (US 6,421,399) in view of Denno et al. (US 5,287,067). Applicants respectfully traverse this rejection.

Claim 6 depends from claim 1 and as explained above, Avidor et al. fails to disclose all limitations of claim 1. Accordingly, claim 6 is patentably distinguishable from Avidor et al. for at least the same reasons as claim 1. Therefore, the combination of Avidor et al. and Denno et al. cannot render claim 6 obvious.

Claims 7, 8, 14, and 16 are rejected under 35 U.S.C. 103(x) as being unpatentable over Avidor et al. (US 6,421,399) in view of Baum et al. (US 5,233,632). Applicants respectfully traverse these rejection.

Claim 7 has been rejected in the manner of claim 1. Accordingly, claim 7 is patentably distinguishable from Avidor et al. for at least the same reasons as claim 1.

Further, claim 7 recites determining a first symbol and a second symbol and producing unmodulated angular sequence for which, the Examiner has not cited any reference in Avidor et al. Therefore, claim 7 is further patentably distinguishable from Avidor et al. Accordingly, the combination of Avidor et al. and Baum et al. does not render claim 7 obvious.

Claim 8 has been rejected in the manner of claim 7 and 3. Accordingly, claim 8 is patentably distinguishable from the combination of cited references for at least the same reasons as claims 7 and 3.

Claims 14 and 16 have been rejected in the manner of claim 7, accordingly, claims 14 and 16 are patentably distinguishable from the combination of cited references for at least the same reasons as claim 7.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Avidor et al. (US 6,421,399) and Baum et al. (US 5,233,632) as applied to claim 7 above, and further in view of Dobrica (US 5,875,215). Applicants respectfully traverse these rejections.

Claim 9 has been rejected in the manner of claims 7 and 4. Accordingly, claim 9 is patentably distinguishable from the combination of cited references for at least the same reasons as claims 7 and 4.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Avidor et al. (US 6,421,399) and Baum et al. (US 5,233,632) as applied to claim 7 above, and further in view of Li et al. (US 6,031,880). Applicants respectfully traverse these rejections.

Claim 10 has been rejected in the manner of claims 7 and 5. Accordingly, claim 10 is patentably distinguishable from the combination of cited references for at least the same reasons as claims 7 and 5.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Avidor et al. (US 6,421,399) and Baum et al. (US 5,233,632) as applied to claim 7 above, and further in view of Denno et al. (US 5,287,067). Applicants respectfully traverse these rejections.

Claim 11 has been rejected in the manner of claims 7 and 6. Accordingly, claim 11 is patentably distinguishable from the combination of cited references for at least the same reasons as claims 7 and 6.

Claims 12 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Avidor et al. (US 6,421,399) and Baum et al. (US 5,233,632) as applied to claim 7 above, and further in view of Yoshida et al. (US 5,170,415). Applicants respectfully traverse these rejections.

Claim 12 has been rejected in the manner of claims 7 and 2. Accordingly, claim 12 is patentably distinguishable from the combination of cited references for at least the same reasons as claims 7 and 2.

Claim 15 has been rejected in the manner of claim 12. Accordingly, claim 15 is patentably distinguishable from the combination of cited references for at least the same reasons as claim 12.

Applicant believes this application and the claims herein to be in a condition for allowance. Should the Examiner have further inquiry concerning these matters, please contact the below named attorney for Applicant.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Abdul Zindani', with a long horizontal flourish extending to the right.

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